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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/357,375	07/20/99	ARTHUR M	0660-0155-0-

022850
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EXAMINER	
HUTSON, R	
ART UNIT	**PAPER NUMBER**
1652	12

DATE MAILED: 03/27/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.	Applicant(s)
09/367,051	Ohtake et al.
Examiner	**Group Art Unit**
Richard Hutson	1652

☒ Responsive to communication(s) filed on *Jan 18, 2001*

☐ This action is **FINAL.**

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire *3* month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claim

☒ Claim(s) *36-43* is/are pending in the applicat

Of the above, claim(s) *37 and 42* is/are withdrawn from consideration

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) *36, 38-41, and 43* is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☒ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____ .

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☐ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

DETAILED ACTION

The cancellation of claims 29-35 and the addition of claims 36-43 is acknowledged, thus claims 36-43 are at issue and are present for examination.

Claims 36-43 are at issue and are present for examination.

Applicants' arguments filed on 1/18/2001, paper No. 11, have been fully considered and are deemed to be persuasive to overcome some of the rejections previously applied. Rejections and/or objections not reiterated from previous office actions are hereby withdrawn.

Claim 37 and 42 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention, the requirement having been traversed in Paper No. 7.

Specification

1. The disclosure is objected to because of the following informalities:

35 U.S.C. 112, first paragraph, requires the specification to be written in "full, clear, concise, and exact terms." The specification is replete with terms which are not clear, concise and exact. The specification should be revised carefully in order to comply with 35 U.S.C. 112, first paragraph. Examples of some unclear, inexact or verbose terms used in the specification are: There are numerous SEQ ID NOs originally disclosed and amended in paper Nos: 7 and 11, dated 7/7/2000 and 1/18/2001 respectively, throughout the specification, as well as the proteins corresponding to and encoded by these SEQ ID NOs . There apppear to be many inconsistencies in the disclosure with respect to the description of these SEQ ID NOs. For instance, page 41-42

lists SEQ ID NO: 2 (VanH), SEQ ID NO: 4 (VanA) SEQ ID NO: 6 (VanX), SEQ ID NO: 12 (VanR), SEQ ID NO: 14 (VanS), SEQ ID NO: 19 (transposase), SEQ ID NO: 21 (resolvase), SEQ ID NO: 23 (VanY) and **SEQ ID NO: 25 (VanZ)**. Yet page 19, line 15 recites "...**VanC (SEQ ID NO: 2)**..." Amendment C, claim 36 recites "... **SEQ ID NO: 25 (VanC)**...". Page 3, line 13 recites "...**SEQ ID NO: 8 (VanC)**..." Further page 42 lists both "SEQ ID NO: 15" and "SEQ ID NO: 1" twice (i.e. SEQ ID NO: 15 is listed once on line 26, and once on line 29). The above inconsistencies as well as others make the specification very difficult to clearly understand. Appropriate correction is required.

Claim Objections

2. Claim 41 is objected to because of the following informalities: Claim 41 recites "...SEQ ID NO: 4 (**Van H**), a fragment of SEQ ID NO: 4....". The specification on page 41, lines 7-21 list Van H as corresponding to SEQ ID NO: 2, and Van A as corresponding to SEQ ID NO: 4. It is believed that as per the specification and the other claims, SEQ ID NO: 4 is the amino acid sequence of the **Van A** protein **not the Van H** protein. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 36, 38-41 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 41 is indefinite in the recitation of "... under high stringency conditions or only slightly stringent conditions..." as the specification does not define what conditions constitute "high stringency or only slightly stringent conditions". While page 4, lines 29, to page 5, line 1 of the specification describes some conditions which are examples of those conditions considered to be "high stringency or only slightly stringent conditions" (see page 4, lines 26-28, there is nothing to suggest that other conditions would not also be included within the scope of this term and in the art what is considered to be conditions of high stringency or only slightly stringent conditions varies widely depending on the individual situation as well as the person making the determination. As such it is unclear how homologous to the sequence of a gene encoding SEQ ID NOs: 7, 8, 9 or 10, a sequence must be to be included within the scope of these claims.

Claim 41 is further indefinite in that it is confusing in the recitation "...encoded by a sequence hybridizing with one nucleotide sequence selected from the group consisting of SEQ ID NO: 7, SEQ ID NO: 8, SEQ ID NO: 9, and SEQ ID NO: 10..." Seq ID NO: 8 is an amino acid sequence corresponding to VanC, and it is unclear how an amino acid sequence can hybridize to an nucleotide sequence.

Claim 36 and 38-40 are further indefinite and confusing in that they drawn to compositions comprising proteins encoded by SEQ ID NO: 2, 4, 6, 8, 12, 14, 19, 21, 23, and 25. SEQ ID NO: 2, 4, 6, 8, 12, 14, 19, 21, 23, and 25 are amino acid sequences and do not encode proteins.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 36, 38, 41 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brisson-Noel et al. (Antimicrobial Agents and Chemotherapy 34(5): 924-927, May 1990).

Brisson-Noel et al. teach the cloning and heterospecific expression of the resistance determinant VanA encoding high-level resistance to glycopeptides in *Enterococcus faecium* BM4147. Specifically they teach that the transformation of a 4-kilobase *EcoRI* fragment encoding this protein conferred vancomycin resistance in *Enterococcus faecalis* and *Bacillus thuringiensis*. Brisson-Noel et al. further teach that the nucleotide sequence upstream of the vanA protein appear to be required for full expression of the glycopeptide resistance phenotype mediated by pIP816, pIP816-1 and pAT211 (See page 925, left col., lines 11-16 and Figure 2).

In total Brisson-Noel et al. teach a 10 kb portion of DNA which confers vancomycin resistance in transformed bacteria.

One of ordinary skill in the art at the time of filing would have been motivated to sequence the entire isolated 10 kb DNA fragment responsible for vancomycin resistance and identify each open reading frame and express the encoded proteins such that these proteins could be used in determining the mechanism of action in determining vancomycin resistance. The motivation for the identification and purification of these additional protein determinants is given by Brisson-Noel in there statement that there appear to be additional determinants "... required for full expression of the glycopeptide resistance phenotype..." One would have had a reasonable expectation of success based on the level of skill in the art at the time with respect to protein expression and purification.

Applicants argue the earlier 103 rejection over Brisson -Noel et al. on the basis that the reference does not describe the nucleotide or amino acid sequences of the vanA determinant, nor does it suggest mechanisms to explain the observed resistance to glycopeptides associated with the plasmid pIP 816. Applicants further argue that the reference teaches that it is **not** possible to identify the exact nature of the determinant present on the 4kb fragment since "additional sequences present on the 6kb EcoRI fragment appear to be required for full expression of the glycopeptide resistance phenotype..." This statement in fact leads to the motivation for the sequencing of the entire 10 kb DNA fragment, identification of all open-reading frames and

production of the encoded proteins so that the "exact nature of the determinant present on the 4kb fragment" and the role it plays in vancomycin resistance can be determined.

Therfore, Brisson-Noel et al. make claims 36, 38, 41 and 43 obvious.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Hutson whose telephone number is (703) 308-0066. The examiner can normally be reached on M-F from 7:30 to 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ponnathapy Achutamurthy (Murthy), can be reached on (703) 308-3804. The fax number for Official Papers to Technology Center 1600 is (703) 305-3014.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0196.

Richard Hutson Ph.D.
3/19/2001

REBECCA E. PROUTY
PRIMARY EXAMINER
GROUP ~~1800~~ 1600